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ABSTRACT

To examine effects of gender and prior experiences with course content on student attitudes toward, and performance in, introductory courses, a study examined two studies which investigated aspects of the introductory communication course at Central Michigan University. The study also examined whether differences between the Personalized System of Instruction (PSI) model and the self-contained model for teaching were affected by gender or experience differences. For the first study, 813 undergraduate students enrolled in the basic speech communication course were surveyed, once during the second week of classes and again during the last week of classes (107 were enrolled in two PSI-based sections and 706 were enrolled in 28 self-contained sections). The second study surveyed 159 students enrolled in PSI-based sections of the introductory course during the third and final weeks of the course. Analysis revealed no significant differences between genders for the Students' Perceptions of Communication Abilities (SPCA) scale, for attitudes toward the course, or for self-esteem measures. However, strong differences were apparent between PSI-based and self-contained sections of the course. Students in PSI-based sections received significantly higher final course grades than students in self-contained sections. Also, females received significantly higher course grades overall than did males. Of the 59 students repeating the course, those in the PSI-based format performed better than those in the self-contained format. (Three tables of data are appended.) (MM)

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"RECOGNIZING THE IMPACT OF GENDER AND OTHER DEMOGRAPHIC/COGNITIVE DIFFERENCES ON LEARNING AND ATTITUDE FORMATION IN THE BASIC COURSE"

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RECOGNIZING THE IMPACT OF GENDER AND OTHER DEMOGRAPHIC/COGNITIVE DIFFERENCES ON LEARNING AND ATTITUDE FORMATION IN THE BASIC COURSE

A major strength and a potential liability in the basic course in speech communication is its diversity of audience. In many cases, students are required to take the introductory speech or communication course to satisfy some university-wide or department-level requirement. Consequently, the students who enroll in this course tend to range from freshmen to seniors and cross all academic disciplines offered at the institution. Accommodating for a wide range of maturity levels, motivation levels, communication skills, communication apprehension levels, writing abilities, aptitudes, and so on, can be a major challenge for instructors in this introductory course.

One way to begin to deal with this problem is to identify teaching models for this discipline that work most effectively for the group of students as a whole. For example, Central Michigan University (CMU) has begun to incorporate aspects of the Personalized System of Instruction (PSI) into sections of the basic course (see Keller, 1974; Keller & Sherman, 1974, 1982). Research conducted at CMU (Gray, 1984; Gray, Buerkel-Rothfuss, & Thomas, 1987; Gray, Buerkel-Rothfuss, & Yerby, 1986) has attempted systematically to assess differences between PSI-based sections of the basic course, a multiple-section hybrid course, and other, more traditional, models: the lecture-recitation format and the self-contained format. Results of this research consistently point to the PSI-based model as being a superior model for teaching the hybrid speech communication course along a number of attitudinal and performance dimensions (for detailed descriptions of this research, see Gray, 1984; Gray et al., 1987; and Gray et al., 1986).

A second way to deal with the diversity problem is to attempt to link specific course and/or student variables to attitudes with and performance in the basic course, with the ultimate goal being to adapt the teaching model to best compensate for those differences. For example, very high communication apprehension that is not recognized by the instructor early in the course might be associated with poor attitudes toward the course, early withdrawal from the course, or poor performance in the course. According to Richmond and McCroskey (1985), "high communication apprehensives often will drop a class with high

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communication requirements, even if it is a required course. For example, one study found that over 50 percent of the students with high communication apprehension dropped a required public speaking course during the first three weeks of the course, just before the first speech.... In short, communication apprehension has a direct impact on student preferences for instructional systems and on student behaviors in the classroom. In most instances the tendencies of high communication apprehensives push them toward behaviors that decrease their likelihood for success in the academic setting...." (pp. 46-47). Similarly, prior experience with the course content or high interest in public speaking or the communication process might be expected to be positively related to grades in the course if assignments replicate these experiences, or might be negatively related to attitudes toward the course if the material appears to be too redundant with prior experience. Prior experience that takes the form of repeating the same course may be associated with negative attitudes toward the course based on the anger or frustration or anxiety that was tied to the prior experience. To date, little research has been published that looks specifically at the link between student variables and components of the PSI-based teaching model in speech communication.

One goal of this paper is to examine two student variables that might impact on attitudes toward and performance in the basic course: gender and prior experience with course content. A second goal is to determine whether or not differences between the PSI-based model and the self-contained model for teaching this course are affected by gender or experience differences. In other words, is there an interaction effect between type of pedagogical model and these student variables?

The data presented are based on post hoc analyses of two studies designed to examine aspects of the introductory speech communication course at Central Michigan University. Personal experience with teaching and supervising this course has suggested to the researchers that there may be important gender differences operating; similarly, interactions with students who have had prior experience with course content (either because they dropped the course in a previous semester or because they had had outside experiences that related to course content prior to enrolling in the course) suggest differences in their approach to this course. A review of key research in these areas was undertaken to provide a theoretical framework for our suspicions before the post hoc data

analyses could proceed. Because the analyses were secondary elaborations of studies already completed, variables considered were necessarily limited to those already included in the instruments that had been used in the two studies cited. These variables are described in more detail as they pertain to both gender and prior experience in the sections that follow.

GENDER DIFFERENCES

Language and Sex: Difference and Dominance, Gender and Communication, Communication Between the Sexes, The Power To Communicate: Gender Differences As Barriers. A look at any list of texts in the field of communication would include titles such as those listed above. It is easy to conclude that an interest in gender distinctions is thriving in our field. This interest is not a new one, either; "interest in the different relations of the sexes to their language dates back at least to 1664, the year of the publication of a report which cites different women's and men's forms in the speech of the Carib people" (Thorne and Henley, 1975, p. 5). Indeed, even before such structured research took place, communication between the sexes was a matter of concern. "Social and religious injunctions against women communicators have abounded. In the New Testament, Saint Paul instructed men to 'let a woman learn in silence with all submissiveness.' He said, 'I permit no woman to teach or to have authority over men; she is to keep silent.' (I Timothy 2:9-15)" (Borisoff and Merrill, 1985, p. 5).

The reason for this concern may be obvious. "'Speech' and 'voice' are frequently used as metaphors for power. It is in the act of giving voice to one's thoughts and feelings that a speaker has the potential to affect the thoughts and behaviors of others." (Borisoff and Merrill, 1975, p. 5) Certainly, then, communication skills increase the likelihood of influencing others and so attaining goals, presumably both personal and professional. It is no wonder that many fields, such as social linguistics, education, and speech communication, to name but a few, have continued to explore areas that may affect this skill. Similarly, in a time in our history when women are experiencing new freedoms and increased equality with males in personal and professional situations, the possible effects of gender in attaining these communication skills would be an important interest for scholars.

One might question whether or not this concern is still a viable one. In the past, society admittedly has treated women in an inferior fashion. Thorne and Henley describe an extreme case concerning the Caffre tribe in South Africa. "A Caffre wife must not pronounce the names of her father-in-law or the names of her mate's male relations in the ascending line, or words which contain a syllable of any of those names. In the case of the Caffres, avoiding the emphatic syllable contained in many male names means that many words used by the women have a syllable changed and at times the entire words" (Thorne and Henley, 1975, p. 44). Of course, this may be an extreme western society has avoided entirely. Further, most people would agree that great strides in reducing gender differences have been made in recent decades by western society. However, for those of us interested in higher education, there seems little doubt that gender differences are still with us. A recent series of articles details many concerns about sexism on college campuses (Campbell, 1985; Hall, 1985; Rieke, 1985). One author stated: "I wish I could say that sexism on the campus was exaggerated or in the course of ultimate extinction. I cannot" (Rieke, 1985, p.74). These authors claim that the college classroom presents "a chilly climate for women" (Campbell, 1985, p. 68). For researchers concerned with factors concerning the basic course, the question remains: are there gender differences affecting performance and attitudes in communication courses?

Inconclusive findings abound. Pearson (1985), in her book compiling research in the area of gender, tells us that the research on gender differences in self-esteem "have provided mixed findings" (p. 57), on the changing roles of men and women "are limited and mixed, at best" (p. 52), in listening "is inconclusive as to whether men or women are better listeners" (p. 160), on empathy "the literature does not offer conclusive evidence that women are superior to men in empathic ability" (p. 168), etc. Such vague findings make predictions about the role of gender on attitudes toward and achievement in a basic speech communication course difficult.

Of special interest to this paper are the variables that correspond to the expected behavioral outcomes of the course syllabus and instructor goals for the course. Specifically, the following variables were directly relevant to course objectives: perceived change in communication skills and the impact of the basic course on such change, change in communication apprehension, change in self-esteem, academic achievement in the course, and satisfaction with the instruction in and the

quality, difficulty, and usefulness of the course. Each variable is considered individually in the sections that follow.

Communication Competence

One area in which males and females might differ would be in their self-perceptions of communication competence and the degree to which they credit the course for improvement in their communication skills. To link these perceptions with the course in question, it was necessary to consider students' perceptions of their competence in each of the following skill areas covered in the hybrid course: overall communication competence, listening, interpersonal interaction, nonverbal communication, use of language, conflict management, small group discussion, and public speaking.

With so many variables being considered, it was difficult to find clear support from the literature for an expected higher level of positive perceptions by either gender. However, many of the areas listed above relate to characteristics of females commonly associated with this gender. These characteristics, "such as sensitivity to the needs of others, understanding, compassion, and warmth, may assist them in the public speaking setting; while feminine personality traits including compliance, yielding, and responsiveness may help women in achieving higher grades in the classroom" (Pearson, 1985, p. 325). Therefore, it could be expected that females would perform better overall in the basic, hybrid communication course. However, because any measure of perceived competence is based not on objective standards but on self-perceptions of ability, self-esteem may have an impact on these perceptions. As can be seen in the discussion of self-esteem later in this paper, females may indicate less perceived communication competence than males because of this influence; however, females also may change their self-perceptions more in a positive direction as a result of taking the course.

Communication Apprehension

The second area explored was that of communication apprehension. McCroskey, Simpson & Richmond (1982) reported that their research findings were identical to other studies done by Talley (1979) and Zimbardo (1977). This research indicates that there are no significant

differences between males and females in terms of general communication apprehension. The combined studies do indicate, however, that "females are slightly more apprehensive about communicating within the public speaking context than males" (McCroskey, Simpson & Richmond, 1982, p. 133). Consequently, females should be expected to score somewhat lower than males on the PRCA-20, an assessment of communication apprehension that focuses on public speaking more than on other social communication settings.

Whether or not females could be expected to show a larger decrease in apprehension as a result of taking an introductory hybrid course can not be clearly predicted from the available literature, however. In fact, there are contradictory findings as to whether or not it is possible to reduce communication apprehension in a basic course for either gender. Gray et al. (1986; 1987) reported decreased communication apprehension (as measured by the PRCA-20) as an outcome of the course at CMU, with PSI-based sections exhibiting more change than the other models examined. In comparison, Richmond and McCroskey (1985) warn that a decrease in communication apprehension can only be expected for very specific skill areas. "Improved skills can only be expected to result in areas in which specific skills training is provided. By this we mean that skills training does not generalize....If specific training in how to construct a good introduction to a speech is provided, we should expect the person after training to be able to prepare a better introduction. However, we should not expect the person to be able to prepare a better conclusion or to prepare better for a formal interview. Such skill generalization simply does not occur. As a result, we cannot expect any generalized reduction in communication apprehension to be produced by skills training either" (p. 89).

Self-esteem

Another area that was focused on in the two studies from which these data were culled was self-esteem. Pearson (1985) summarizes the literature in this area by stating that "some have found no difference in the levels of self-esteem between men and women (Seidner, 1978; Drummond, McIntire & Ryand, 1977; Zuckerman, 1980) and others have determined that men are higher in self-esteem than are women (Stoner & Kaiser, 1978; Smith & Self, 1978; Gold, Brush, & Sprotzer,1980; Loeb &

Horst, 1978; Judd & Smith, 1974; Berger, 1968; Bohan, 1973)" (p. 57). In addition, Pearson cites studies that show that women may alter their perceptions of themselves more readily than do men (Shamo & Hill, 1975; Judd & Smith, 1974, 1977). Women can overcome the differences in self-esteem through intervention which focuses on developing skills (Pearson, 1985, p. 61; Smith & Self, 1978). Therefore, although the research is inconclusive, it could be expected that men would do better on a scale of self-esteem than would women and, further, that women would change their self-esteem more significantly in a positive direction after taking a skill-building course.

Academic Achievement

Also considered in the studies from which these data were drawn was students' academic achievement in the course. Common perceptions concerning gender differences in achievement favor males over females in academic matters. "From the time of adolescence, men have a higher expected success rate on non-social skills than do women. When actual performance lags behind expected success, men are still perceived as more successful (Gold, Brush, & Sprotzer, 1980)" (Pearson, 1985, p. 58). However, the research in our field seems to support the belief that females should receive higher all-around grades than would males in a communication classroom. "It appears that women and feminine individuals may report greater levels of fear, but actually perform better" (Pearson, 1985, p. 326). In the specific area of public speaking, females tend to do better than males, also. "Females appear to receive higher grades than males on their classroom speeches (Pearson & Nelson, 1981; Barker, 1966)" (Pearson, 1985, p. 325).

Satisfaction

The last area was a collective one that included satisfaction with the instruction in and the quality, difficulty, and usefulness of the course. Again, the eclectic nature of the published information made it difficult to find supportive data to assert that any specific gender differences would be found here, but one overall finding already cited may have an impact here. Since women more readily change their perceptions of themselves than do men (Shamo & Hill, 1975; Judd & Smith, 1974, 1977), and since

females seem to respond to intervention programs which focus on skills (Pearson, 1985, p. 61; Smith & Self, 1978), it may be true that females would have more positive attitudes toward the course and be more satisfied with it overall.

To briefly summarize, the review of literature revealed many contradictory and inconclusive findings concerning the possible role of gender differences in performance in and attitudes toward a basic speech communication course. In general, the following assumptions appear to have empirical support, and, as such, guided the data analysis: 1) females will perceive their communication competence to be lower than males at the beginning of a communication skills course but will change more significantly in a positive direction by the end of the course than will males; 2) females will attribute this positive change to the course more than will males; 3) females will show greater signs of communication apprehension than will males at the start of the course but will change more significantly in a direction of reduced apprehension than will males; 4) females will evaluate their self-esteem lower than will males at the start of the course but will change more significantly in a positive direction than will males by the end of the course; 5) females will show more positive attitudes toward the course in general; and 6) females will receive higher grades in the course than will males.

EXPERIENCE DIFFERENCES

A second set of student variables was related to the possibility that some students enrolled during the semester that these data were collected differed from other students based on past experience with the course content or with this actual course. In particular, two groups of students were considered to be important: 1) students who had had forensic (debate or individual events) experience or public speaking/communication courses prior to enrolling in the introductory course at CMU; and 2) students who, for whatever reason, withdrew or failed this course in a prior semester.

A review of relevant literature regarding these differences offered little help in predicting how or why these students might be different from the rest of the population for this course. It is probably safe to assume that having had a public speaking class in high school or having been on the debate team could affect one's performance in this course, but the direction of that affect is not certain. A student who excelled in high

school might have abilities and resources upon which to base efforts in this course. As a consequence, it might be somewhat easier for that student to perform well in this course than it would be for students who lack that experience. There could be a negative side to the prior experience, however. If the material is perceived to be too low-level or redundant or if the content in the introductory course contradicts earlier information in some significant way, the student may develop negative attitudes toward the course which might, in turn, affect satisfaction and achievement.

As for students who were repeating the course during the semester these data were collected, similar contradictions are possible. If the reenrollment was brought about by illness or other unforeseen circumstances, the prior experience might have enhanced the student's attitude and performance in much the same way prior experience with the content in high school could be expected to enhance these variables. On the other hand, if the student had been forced to repeat because of too many absences, missed assignments (potentially caused by high speech anxiety; see Richmond and McCroskey, 1985), or failing grades, the student's attitude could have been negative from the beginning.

Because of the many possible predictions that could be made about the prior experience variable and the small sample size expected to emerge from these data, no hypotheses were developed. Instead the analyses were guided by a global research question: to what extent does prior experience with this course or with this content affect student attitudes and performance?

EFFECT OF INSTRUCTIONAL MODEL: PSI-BASED VS. SELF-CONTAINED

In addition to examining gender and experience differences across sections of the basic course, a second goal was to examine the interaction of the pedagogical model with these differences. Since an underlying goal of this research was to fully describe the impact of the PSI-based format on instruction in the introductory hybrid course, examining for differences based on gender and experience variables seemed important.

Considerable research concerning the use of a modified PSI format in the basic speech communication course shows this instructional format to be a very effective one (Berryman-Fink & Pederson, 1981; Fuss-Reineck & Seiler, 1982; Gray, 1984; Gray, Buerkel-Rothfuss, & Thomas, 1987; Gray,

Buerkel-Rothfuss, & Yerby, 1986; Haniako, Beall, Prentice, & Seller, 1982; Hanna & Gibson, 1983; Heun, Heun, & Ratcliff, 1976; Scott & Young, 1976; Seller, 1982, 1983; Seller & Fuss-Reineck, 1986; Staton-Spicer & Bassett, 1980; and Taylor, 1986). Specifically, research by Gray, Buerkel-Rothfuss, and Yerby (1986) and Gray, Buerkel-Rothfuss, and Thomas (1987) on the differences between a modified personalized system of instruction (PSI-based) and other instructional formats (lecture-recitation and self-contained) of the basic speech communication course points to a clear superiority of the PSI-based method along a number of dimensions: student performance on written assignments, student performance on oral assignments, student satisfaction with the course, and student perceptions of instruction in the course.

The reasons for the superiority lie in the components of the PSI model, developed by Keller (Keller, 1974; Keller & Sherman, 1974, 1982; Sherman, 1974; Sherman, Ruskin & Semb, 1982). Research on the PSI model consistently demonstrates better outcomes for this approach than for more "traditional" approaches to teaching basic courses across a variety of disciplines (Hursh, 1976; Kulik, Kulik & Cohen, 1979; Taveggia, 1976). The PSI model has five essential characteristics: 1) mastery learning, 2) self-pacing, 3) a stress on the written word, 4) the use of student proctors, and 5) the use of lectures to motivate rather than to supply essential information (Keller & Sherman, 1982, p. 22).

The modified PSI approach taken by Gray et al. borrows heavily from this PSI model. In particular, this approach retains the five essential characteristics of PSI, with some modifications made to suit the nature of a performance-based course. In the PSI-based sections, the average class size during the semester that these data were collected was 66. Each section was taught by a regular faculty member and utilized student proctors who each supervised a small group of six or seven students. The self-contained sections incorporated four of the five essential characteristics of PSI; the use of student proctors, or undergraduate teaching assistants (UTAs), was not part of the self-contained format. In the self-contained sections, the average class size was 33. Each section was taught by a graduate teaching assistant. There were only three differences between the two formats: the self-contained sections did not use student proctors, the class size differed, and the PSI-based students could repeat their first two speeches until a minimum competency level was achieved while in the self-contained sections students gave an

ungraded first speech and a graded second speech in addition to the graded third speech which was common to both formats. (For a complete description of this approach, see Gray, Buerkel-Rothfuss, and Thomas, 1987).

In short, the superiority of the PSI-based model appears to be clear. Less certain is whether or not being male or female is related to performance in this or other models of the basic course. As discussed earlier in this paper, there is some reason to believe that females will perform better than males and will express more positive attitudes than males in the course. The question then becomes, does working with an undergraduate teaching assistant (UTA) diminish some of these gender differences? Certainly the accessibility to the undergraduate teaching assistant and the one-on-one coaching, encouraging, and helping that goes on in the PSI-based format might affect attitudes and performance and so lessen any inherent gender differences that might be found in the course overall. If females tend to rate their self-esteem lower than males at the outset, the one-on-one attention from the UTAs might help to enhance these self-perceptions. If males tend to be more resistant to learning this material or tend to find it more difficult to incorporate communication skills like empathy and listening into their daily interaction, the relationship with the UTA might result in better understanding of this material.

Again, because of the lack of information considering these interactions, no hypotheses guided the post hoc analyses. The research questions were phrased at the exploratory level of explanation: Is there a relationship between gender and/or prior experience and type of model (PSI-based vs. self-contained) when looking at student attitudes and performance in the introductory hybrid course? If so, what sorts of interactions can be identified?

THE RESEARCH STUDIES

The data reported here were derived from two studies designed to examine aspects of pedagogy in the introductory course. The male-female comparison data were collected from a study designed to examine student variables in PSI-based sections of the course only (see Yerby, Gray, and Buerkel-Rothfuss, 1987) and from a study designed to compare PSI-based sections of this course with self-contained sections (see Gray, et al.,

1987). The prior experience data were also collected from these two studies. The effect of controlling for prior experience is tested using data from the Yerby et al. study (1987); the analyses examining interaction effects were run using the Gray et al. (1987) data.

METHOD

Study 1

Sample. Data were collected from undergraduate students enrolled in the basic speech communication course during the fall semester of 1985-86. Two questionnaires were administered, the first during the second week of classes and the second during the last week of classes. Slightly under one thousand students completed the first questionnaire; a similar number completed the second questionnaire. Social security numbers were matched for pretest and posttest data, and only those subjects who completed both waves of the testing were selected for the final sample. In all, eight hundred thirteen students (just over 80% of all students enrolled in the course) were included in that sample: one hundred seven were enrolled in two PSI-based sections and the remaining seven hundred six were enrolled in twenty-eight self-contained sections of the basic course. Students enrolled in evening sections of the course were not included in the sample due to possible confounding factors associated with the once-per-week meeting format of the evening meeting time.

Over 60 percent of the students in the sample were freshmen, 25 percent were sophomores, and the remaining 15 percent were split between junior and seniors. Because the course is part of a competency requirement for the university, the sample was considered to be representative of the campus as a whole. Literally all possible majors and minors were represented in the sample.

With regard to gender, females outnumbered males in the sample five to three. The overrepresentation of females was probably caused by some combination of the following factors: 1) the ratio of females to males was approximately 60:40 at the university at the time of data collection; 2) females may have been more conscientious about attendance and filling in the questionnaires, thus being dropped from the sample in smaller numbers; and/or 3) females may have selected this communication course over the five other possible competency courses while males may have

been represented more heavily in those other courses.

To assure comparability of sections at the outset of the study, Chi-square tests were computed for the following variables from the pretest data: class standing, grade expected in the course, approximate GPA, previous public speaking/forensic experience, and previous enrollment in the course. No significant differences were obtained. Similarly, t-tests were used to compare PSI-based sections with self-contained sections on perceptions of communication competence, expectations for the course, communication apprehension, and social self-esteem. No significant differences were identified from the pretest data, leading the researchers to conclude that there were no systematic differences between groups at the beginning of the study.

Procedure. Data collection was accomplished in three phases: pretest questionnaire, posttest questionnaire, and collection of grades from instructors' record books. Data were collected by classroom instructors; the researchers did not teach sections of the basic course during 1985-86.

The first questionnaire contained 91 items and was divided into five sections: 1) items measuring perceived communication competence (Self-Perception of Communication Abilities Scale); 2) items measuring students' expectations for the course to improve their communication competence (Perceived Influence of the Course on Communication Abilities Scale); 3) McCroskey's (1970) Personal Report of Communication Apprehension Scale; 4) an adaptation of the Janis-Field Feelings of Inadequacy Scale (Robinson & Shaver, 1973); and 5) demographic characteristics and expected grade in the course. The scales and items chosen reflected the expected outcomes for the course as stated in the standardized course syllabus.

The Self-Perception of Communication Abilities Scale (SPCA) was adapted from an earlier study by Gray et al. (1986). This scale measured self-perceived ability in a range of communication skills: overall communication competence, listening, interpersonal interaction, nonverbal communication, use of language, conflict management, and so on. Students responded to a series of statements such as: "I am a competent listener" using a five-point Likert-type scale (1=strongly agree; 5=strongly disagree). All sixteen items were summed and divided by sixteen to create this scale, with a low number indicating a high degree of self-perceived

communication ability. Alpha reliability for this scale was .90.

The Perceived Influence of the Course on Communication Abilities Scale (PICA) also was adapted from Gray et al. (1986). The pretest items for this sixteen-item scale measured the degree to which subjects expected taking the course to improve their personal communication abilities (alpha reliability = .94). For the pretest, subjects responded to a series of future-oriented statements such as "I expect to become a more competent listener as a result of taking this course" using a five-point Likert-type scale (1=strongly agree; 5=strongly disagree). A low score on the pretest PICA scale indicated a perception that taking the course would improve the individual's communication ability.

McCroskey's 20-item Personal Report of Communication Apprehension (PRCA-20) scale was used to assess students' apprehension about giving speeches prior to practicing that ability in the course (McCroskey, 1970; Powers & Smythe, 1980). Students responded to a series of statements about speaking/communicating situations such as "I feel relaxed and comfortable while speaking." Items were coded so that a low score on this scale indicated a low level of communication apprehension (alpha reliability for the PRCA in this study = .95).

A modified version of the Janis-Field Feelings of Inadequacy Scale (FIS), a widely-used measure of social self-esteem (Robinson & Shaver, 1973), was included to measure the impact of improving communication skills on self-esteem. Modifications in the scale involved adding items that correspond to units taught in the basic course. Again, students responded to a series of statements about self-perceptions such as "I can make decisions confidently." A high score on this scale indicated high self-esteem. The alpha reliability for this scale for this study was .94.

Finally, demographic data and grade expectations were collected to check for similarities of students across groups: class standing, gender, grade expected in the course, GPA, prior experience with course content, other communication courses taken, and whether or not the students had enrolled in but not completed the basic course in a previous semester.

The second questionnaire was administered during the final week of classes and contained the same scales as in the pretest: the SPCA, the PICA, the PRCA, and the FIS. For the posttest, items on the PICA scale were rephrased from future tense, "I expect to become a more competent listener as a result of taking this course," to past tense, "I have become a more competent listener as a result of taking this course." Consequently,

the posttest PICA measured the degree to which the course was credited for improvement (or lack thereof) in students' communication skills, a slightly different measurement than the expectations extracted from the pretest PICA. The alpha reliability for the posttest measure for this study was .94; alpha reliability for the entire combined scale was .92. Also included on the posttest questionnaire were questions about the final grade expected in the course, overall rating of the course, and ratings of the course in terms of usefulness, difficulty, and the degree to which the course met expectations. Finally, all students were asked to rate their instructor's knowledge of material, ability to convey information, concern for students, effort, grading, and overall teaching ability. These evaluations were summed into a scale measuring general attitude towards the instructor (ATTINST). Students in PSI-based sections answered the same sort of questions about their UTAs (students proctors). In all, the second questionnaire contained 106 items.

Grades for all assignments common to both formats (final speech, videotape assignment, speech outline, audience analysis paper, final exam, and final course grade) were gathered from records and grade books submitted by the instructors. Because the university uses a 12 point grading scale, all grades recorded fell within a range of 1 point (E) to 12 points (A).

Study 2

Sample. Data were collected from students enrolled in PSI-based sections of the basic course during the third week of the Winter, 1987, semester. During the last week of the semester, students were asked to complete a posttest questionnaire. In all, 159 of the 181 students enrolled in these sections completed both phases of the data collection and became the sample for this study.

Looking at demographic data, approximately 70% of the students in the sample were freshmen, 15% were sophomores, and the remaining 15% were juniors or seniors. Females outnumbered males approximately 3 to 2.

Procedure. The main purpose of the study was to examine the relationship between students' perceptions of their UTAs and UTA

self-perceptions and to relate student evaluations of their UTAs to student attitudes and performance in the course.

For this post hoc analysis, only the dependent variables (which pertained to student and not UTA variables) were examined. In particular, three indices of student satisfaction were analyzed: the Student's Perceptions of Communication Abilities scale (SPCA), the Perceived Influence of Communication Abilities scale (PICA), and a scale constructed for this study which assessed attitudes toward the course in general (ATTITUDE). Students' self-esteem was measured using the adaptation of the Janis-Field Feelings of Inadequacy Scale (FIS) described earlier, and their communication apprehension was measured using McCroskey's (1970) Personal Report of Communication Apprehension scale (PRCA-20). Except for the general attitude scale, each of these instruments has been described in previous research comparing lecture-recitation, self-contained, and PSI-based models of the basic course (Gray et al., 1986; and Gray et al., 1987).

ANALYSES

Using data from Study 2, t-tests were computed to assess gender differences for all dependent variables at both the outset and at the end of the class. These differences are reported in Table 1.

Two-way analyses of variance and covariance were computed to test for differences between PSI-based and self-contained sections, differences between males and females, and the interaction effect between teaching model and gender. Control variables used as covariates were the following: Class standing (Q81), approximate GPA (Q84), previous experience with debate (Q85), previous experience with individual events (Q86), courses in speech communication taken in high school (Q87), courses in speech communication taken in college (Q88), and previous public speaking experience (Q89). Results of the variance/covariance analyses are reported in Table 2.

Due to the small sample size for repeaters (n = 59), analysis of variance procedures, without the use of covariates which would further reduce the sample size, were used to examine trends in the data only. No statements about statistical significance can be made from these data. Consequently, only results for differences on the SPCA, PICA, PRCA, FIS, and ATTITUDE scales are reported. These data are tabled in Table 3.

RESULTS AND DISCUSSION

Table 1 presents the results of t-tests between males and females for attitude and performance variables. Three sets of variables are presented: 1) pretest information; 2) posttest information; and 3) change scores for the dependent variable scales. Seventy-two males and one hundred two females took part in at least one wave of this study.

Looking first at differences during the third week of classes (PRESPCA, PREPICA, PREATTITUDE, PREPRCA, and PREFIS), only one significant difference was reported. Females in the PSI-based model apparently began the course with lower communication apprehension than did males.

Turning to the differences at the completion of the course, only one significant difference is tabled. This time, the significant difference is for the Perceived Influence of the Course on Abilities scale. Males indicated less influence on the posttest scale than did females.

With regard to change scores and grades in the course, only the communication apprehension measure (PRCA) and the final grade in the course are significantly different. Females apparently reported a significantly larger decrease in speech anxiety and received significantly higher overall grades than males.

In summary, there were no significant differences between genders for the Students' Perceptions of Communication Abilities scale (SPCA), for attitudes toward the course (ATTITUDE) or for self-esteem measures (FIS). Other significant differences follow no specific pattern. Although not significant, mean differences for SPCA, ATTITUDE, FIS, and the SPEECH and FINAL EXAM measures were in the expected direction, with female scores being higher than scores for males.

Table 2 presents the results of the variance/covariance analyses for first time students in PSI-based and self-contained sections of the basic course. All dependent variables are listed on this table; change scores were used as the unit of analysis for all variables for which they were available.

Looking first at differences between the instructional models for the five scales, it appears that the PSI-based model achieved superior results for perceived communication competence (SPCA), perceived contribution of the course to that competence (PICA), perceived communication

apprehension (PRCA), and attitudes toward the instructor (ATTINST). Students in the PSI-based sections reported higher levels of perceived communication competence, credited the course for that competence more, decreased communication apprehension more, and generally felt more positively about their instructors than did students in the self-contained sections. No apparent difference was obtained for scores on social self-esteem (FIS) at the end of the course; both groups reported slight improvements. These results, computed by excluding repeaters from the sample, reconfirm data reported elsewhere for the entire group of students enrolled in that course by Gray et al. (1987).

All covariates except for GPA and college courses exerted influence on at least one of the scales. Significant covariates for SPCA were debate experience, high school courses in speech, and public speaking experience. It seems reasonable that these types of experiences would influence an individual's perception of his or her communication competence. Class standing was related only to perceptions about the influence of the course on improvements. Quite possibly, freshmen would be more likely to credit the course for improvements than would upperclassmen. Interestingly, experience with individual events was related to communication apprehension (or lack thereof) and to attitude toward the instructor. Courses in high school were also related to PRCA. Experience with debate was a significant covariate for the social self-esteem analyses.

Due to the nature of the analysis of variance procedure, specific conclusions about the size and direction of the relationship of the covariables cannot be established. Further exploratory analyses are needed before these relationships can be fully explained.

With regard to gender, only SPCA resulted in a statistically significant difference between males and females. Females reported higher levels of perceived communication abilities at the end of the course than did males. Although the differences in means for each of the other four indices are in the expected directions, these differences are not significant at the specified alpha level of p .05.

None of the interaction effects was significant. In spite of the very large differences by group and by gender, being in a PSI-based model did not enhance the learning for either gender group.

Looking next at perceptions about the degree to which the course met expectations, the difficulty of various aspects of the course, and the usefulness of various aspects of the course, the results are mixed.

Students in PSI-based sections felt that the course was of higher overall quality, met their expectations better, and generally would be more useful to their lives than did students in self-contained sections. These students also perceived the final speech assignment to be significantly more useful than did the other group. Neither group found the videotape analysis assignment to be particularly useful, nor were there significant differences in perceived difficulty of the assignments or tests. Once again, these results support earlier findings for the entire sample by Gray et al. (1987).

Gender was a significant predictor for only three dependent variables: overall perceived quality of the course, the degree to which the course met expectations, and the overall usefulness of the course. Females apparently found the videotape analysis and the final speech to be slightly more useful than did males, but these differences were not significant at the specified alpha level.

The most influential covariate for these analyses was prior experience with public speaking. This experience was linked with all three perceptions of difficulty items and with the item measuring usefulness of the final speech. Presumably, prior experience with public speaking would decrease perceptions of difficulty for speech-related assignments. Also important was high school courses taken in this content area; this covariate was significant in the analyses for difficulty of the tests, usefulness of the final speech, and overall usefulness of the course. Finally, class standing influenced perceptions about the difficulty of the tests and the difficulty of the course overall.

Once again, none of the interaction effects was significant. Being in a PSI-based section did not differentially affect one gender over the other.

Finally, Table 2 presents the results of student performance in the course on five assignments (audience analysis paper, final speech, videotape analysis paper, sentence outline, final exam) and the final course grade overall. This time, very strong differences are apparent between PSI-based and self-contained sections of the course. Students in the PSI-based sections received significantly higher grades on all assignments except for the final exam and, as a consequence, received significantly higher final course grades.

Similarly, strong differences are apparent by gender. Females received significantly higher scores on all assignments and, consequently, higher course grades overall than did males.

With regard to covariates, all but experience with individual events and college courses in speech communication played a role in the analyses. As might be expected, GPA played the most important role in grade achievement. No doubt, students who strive for a high GPA (and who have the study skills and intellectual ability to achieve that goal) will do better in the basic course than other less motivated, less goal-oriented students. Class standing was also a major factor, although it is not known whether being a freshman in a freshman-level course helped or hindered performance. Certainly, prior experience with public speaking would be expected to enhance performance for students in this course.

As in the other analyses, no significant interaction effects are reported. Apparently, performance in the course is enhanced equally for males and females in PSI-based sections.

Overall, it appears that the PSI-based model is superior to the self-contained sections of the basic course in a number of ways, but this model does not exert a different influence on males than it does on females. Although it was predicted that the ability to interact with, receive coaching from, and generally seek assistance from UTAs would reduce the gap between males and females in PSI-based sections, this expectation was not supported by the data. Both males and females perform better in PSI-based sections than they do in self-contained sections of the basic course, but females perform better than males in this course overall.

Table 3 presents the analysis of variance results for the group of students who were repeating the course. Because of the very small sample size (n = 89), no attempt was made to separate repeaters by reasons for repeating the course. Past experience with the withdrawal process has led us to assume that approximately 75%-80% of the individuals in this sample were repeating due to prior course failure or serious policy violation; the other 20%-25% were repeating due to extended illness or difficulty in keeping up with the workload during the semester in which they were originally enrolled. Analysis results are reported for the five indices only.

Only one difference between PSI-based and self-contained sections emerged from these analyses: students in the PSI-based sections apparently had more positive attitudes toward their instructors at the end of the course than did students in the self-contained sections. Males in the PSI-based sections reported an almost impossible score of 1.00,

indicating that, without exception, those individuals felt their instructors to be clearly superior to other instructors. Females in that group reported an equally astonishing 1.21. Students in the self-contained sections reported scores considerably closer to the mean of the scale, with females tending to judge their instructors more positively than males. None of the interaction effects is significant.

Looking at the nonsignificant means, it appears that males in the PSI-based sections reported much higher levels of SPCA than did females in that group and either males or females in the self-contained sections. Similarly, males in PSI-based sections appear to have shown much less improvement in communication apprehension than either females in PSI-based sections or students in the self-contained sections.

With regard to gender, one significant finding is reported: females appear to have increased social self-esteem in both formats of the course more than did males. Once again, no significant interaction effects were reported.

In summary, few differences emerged when comparing just the sample of students who were repeating the course. These data can be considered only in the most tentative way, however, due to the very small sample size. Replication across several semesters will be needed to create a sample large enough for statistically valid analyses.

IMPLICATIONS

The findings reported from this study provide some directions for researchers interested in developing ways to increase the effectiveness of the basic course in speech communication. Meeting the needs of this diverse population may mean developing different instructional formats and/or teaching strategies to increase the effectiveness of the course. Further, it may necessitate the screening and placement of students to place them in sections suited to meet their identifiable needs. By comparing two differing instructional formats, some insights into the direction for future research were found.

With regard to gender, females were found to be superior to males in terms of academic achievement, increasing self-esteem, decreasing communication apprehension, and having positive attitudes toward the course. This was true regardless of the instructional format enrolled in by the students. From these data, varying the instructional format (at

least between PSI-based and self-contained sections) should not provide males with much direct benefit or lessen the disparity between the genders. However, only two instructional formats were assessed with the most apparent difference between the two formats being the use of undergraduate teaching assistants. The one-on-one tutoring did not provide much benefit to the males over the other instructional format. Experimentation with other differences in instructional formats, such as class size, ratio of written analyses to performance assignments, etc. and even teaching styles (lecture, exercises, discussions, etc.) may provide more insight into why this disparity occurred and whether or not this difference is due to differences in preferred learning styles, etc. and therefore due to things we as educators may want to try to evaluate. Certainly, the "chilly climate for women" reported earlier was not found to be true of the course that was analyzed. Reasons why this warming trend occurred could be useful in reducing possible unfair disparity in aspects of the course for the males and may offer some insights into reasons for the differences between this course and other courses to find ways to increase the effectiveness of other courses for females.

With regard to repeaters of the course, there was a difference in performance between students in the instructional formats. The repeaters performed better in the PSI-based format than in the self-contained format. This could be due to several reasons or combination of reasons. The set-up of the format may be a factor in their success. It is possible that students who did not have the PSI-based sections the first time around and didn't pass the course realized their need for guidance, found this guidance easily accessible with the availability of the UTAs, and so maximized the use of the student proctors. Those students may also have used the very obvious difference in format as a way to excuse their previous failure; for these students, being in a PSI-based section may have allowed them to blame the "system" for their first failed attempt at completing the course. For the small number of students who had a PSI-based section the first time around, repeating the course may have been less threatening than for students who had to repeat the course in a regular section, since the large class size may have made it easy to be anonymous to the instructor and therefore not heighten possible feelings of inadequacy. For students who had to drop a self-contained section the first time around and who repeated the course in the self-contained sections, the stigma associated with being forced to repeat a 100-level

course might have contributed to the negative attitudes. Finally, for students who took the course the first time under the PSI-based format but repeated it under the self-contained format, the explanations seems less clear. The ability to repeat under a different format could provide the same "excuse" described above; because the data do not support this conclusion, more specific research is clearly indicated. Obviously, separating the people who repeated against their will (too many incomplete assignments, failing the tests, etc.) from the people who repeated the course for health or other personal reasons is needed before the relationships between format of the course and outcomes for "repeaters" can be understood.

The findings of the analysis of the repeaters have some implications for researchers. Their success in the PSI-based system may imply that identifying students "at risk" may help to place them in sections incorporating some of the effective PSI characteristics, most notably the use of the student proctors. Research aimed at developing ways to identify students who may be predisposed to dropping the course out of fear, lack of motivation, poor attitude, etc. may be very useful to such students and may cut down on the academically disheartening situation that arises when students drop out of a course.

The findings with regard to prior experiences with course content also suggest potential changes that could increase the effectiveness of the basic course for such students. These students with prior experiences in forensics, public speaking through clubs, etc. performed better and were more satisfied with the course when they were enrolled in the PSI-based sections. It seems reasonable that the increased chance for interaction in the small groups could help keep their attention and provide a challenge for experienced students. In addition, the one-on-one coaching may allow them to ask questions at a level that is beyond the typical student and so inappropriate for the larger class but that may be encouraged through the personal interactions in this format. Such experienced students also may contribute ideas to other members of their groups which again is a more reasonable possibility than in the regular, self-contained sections, and so feel challenged and useful in this way.

Clearly, some interesting questions have been raised as a result of these analyses. Future research on the interrelationships between student variables and format/instructional variables in the introductory speech communication course is clearly warranted.

TABLE 1: Results of t-test analyses between males and females for all dependent variables and performance measures from Study 2 (n = 174)

VARIABLE	Mean, Males	Mean, Females	t-value
PRESPCA	3.48	3.49	-.17
POSTSPCA	3.84	3.69	1.48
SPCA	.36	.19	1.23
PREPICA	3.93	3.74	1.82
POSTPICA	3.83	3.55	2.60**
PICA	-.11	-.24	.87
PREATTITUDE	3.30	3.19	1.13
POSTATTITUDE	3.46	3.28	1.82
ATTITUDE	.15	.11	.35
PREPRCA	3.33	2.96	4.48***
POSTPRCA	3.61	3.32	1.88
PRCA	-.29	-.10	2.11*
PRERS	3.30	3.44	-1.63
POSTRS	3.47	3.56	-1.17
RS	.20	.13	.96
VIDEO	6.47	6.71	-.67
SPEECH	7.00	6.77	.84
FINAL	3.86	3.24	1.48
OVERALL	6.13	5.61	2.09*

*p .05 ** p. 01 ***p. .001

TABLE 2: Variance/Covariance Results for Five Scales, Perceptions, and Performance in the Course for Students Taking the Course for the First Time from Study 1

Scale	Group Means				p value			Significant Cov
	PSI-based		S-C					
	M	F	M	F	Gender	Model	GXM	
SPCA	.54	.65	.28	.38	.008	.000	ns	Q85, 87, 89
PICA	-.41	-.33	-.59	-.56	.302	.006	ns	Q81
PRCA	.40	.44	.24	.32	.080	.017	ns	Q86, 87
SE	.09	.11	.05	.10	.148	.665	ns	Q85
ATTIT	1.82	1.65	2.29	2.26	.375	.000	ns	Q86
101 Quality	2.50	2.40	3.06	2.86	.002	.000	ns	
Met Expectations	2.74	2.60	3.18	2.85	.000	.010	ns	
Difficulty of Assignments	2.44	2.59	2.52	2.54	.394	.865	ns	Q89
Difficulty of Tests	1.88	1.92	1.98	1.86	.303	.732	ns	Q81, 87, 89
Difficulty of Course	2.62	2.51	2.46	2.48	.635	.537	ns	Q81, 89
Usefulness of Video Assgn	3.26	3.16	3.31	3.14	.117	.819	ns	
Usefulness of Speech	2.09	1.73	2.26	2.20	.096	.001	ns	Q87, 89

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TABLE 2, Continued.

Usefulness of Course	2.23	1.97	2.84	2.34	.004	.002	ns	Q87
Audience Analysis	9.60	10.08	8.79	9.15	.027	.002	ns	Q81, 84
Final Speech	9.71	10.19	8.47	8.82	.007	.000	ns	Q81, 84, 89
Video	9.46	10.25	8.69	9.14	.018	.000	ns	Q84, 87
Sentence Outline	9.91	10.25	8.84	9.25	.003	.000	ns	Q84
Final Exam	6.11	6.59	6.14	6.68	.002	.194	ns	Q81, 84, 85, 89
Final Grade	9.20	9.52	7.69	8.14	.001	.001	ns	Q81, 84, 87, 89

Q81 = class standing; Q84 = GPA; Q85 = debate; Q86 = individual events; Q87 = HS courses; Q88 = college courses; Q89 = public speaking

NOTE: For all scales and perceptual items, lower scores indicate more desirable responses; for grade items, higher scores indicate higher grades.

TABLE 3: Analysis of Variance/Covariance Results for Five Scales for Repeaters Sample Only from Study 1

Scale	Group Means				p value		
	PSI-based		S-C				
	M	F	M	F	Gender	Model	GXM
SPCA	.19	.39	.48	.42	.668	.905	ns
PICA	-.50	-.48	-.58	-.49	.681	.916	ns
PRCA	-.13	.40	.33	.35	.958	.384	ns
SE	-.20	.28	-.32	.06	.027	.423	ns
ATTINST	1.00	1.21	2.69	2.13	.084	.005	ns

Q81 = class standing; Q84 = GPA; Q85 = debate; Q86 = individual events; Q87 = HS courses; Q88 = college courses; Q89 = public speaking

NOTE: For all scales, lower scores indicate more desirable responses.

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